

This review package can be completed as we work through the chapter or at the latest the night before the review class for the chapter test. Use it as an on-going review or as a study booklet right before the test. The answers will be posted during the review class before the chapter test.

For the given table,

Teacher	Subject
Ms. Wright	English
Mr. Bloomer	Physics
Mr. Talbot	Math
Ms. Gregoire	Chemistry
Ms. Petula	Math

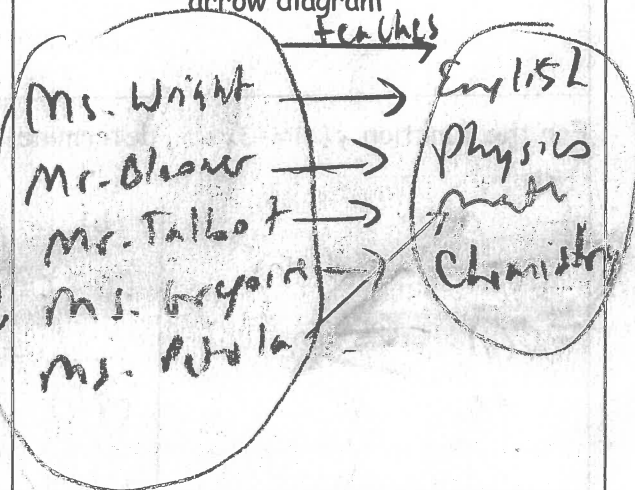
a) describe the relation in words

The relation shows the association "teachers" for the set of teachers and the set of subjects.

b) represent the relation as a set of ordered pairs

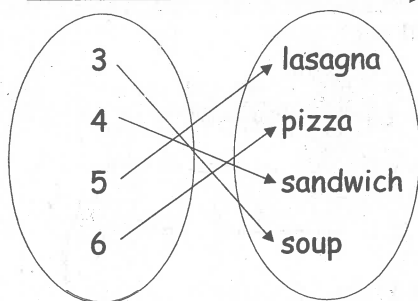
$\{(Ms. Wright, English), (Mr. Bloomer, Physics), (Mr. Talbot, Math), (Ms. Gregoire, Chemistry), (Ms. Petula, Math)\}$

c) represent the relation as an arrow diagram



Represent this relation given in the arrow diagram below in two different ways.

is the number of lunches brought



set of ordered pairs

$\{(3, soup), (4, sandwich), (5, lasagna), (6, pizza)\}$

table number, n	lunch type, l
3	soup
4	sandwich
5	lasagna
6	pizza

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For the relation below:

$$\{(-3, -1), (-3, 3), (2, 3), (4, 0), (5, 0)\}$$

a) Is it a function? (circle one):

yes

no

(The domain element -3 has more than one range element)
ie x has more than 1 y.

b) State the domain:

$$\{-3, 2, 4, 5\}$$

c) State the range:

$$\{-1, 3, 0\}$$

For the function $f(x) = -3x + 5$, determine

a) $f(0)$

$$f(0) = -3(0) + 5$$

$$f(0) = 5$$

b) $f(-2)$

$$f(-2) = -3(-2) + 5$$

$$= 6 + 5$$

$$f(-2) = 11$$

c) $f(1)$

$$f(1) = -3(1) + 5$$

$$= -3 + 5$$

$$f(1) = 2$$

For the function $P(n) = 2n - 7$, determine n when

a) $P(n) = 5$

$$5 = 2n - 7$$

$$+7 \quad +7$$

$$12 = 2n$$

$$\frac{12}{2} = \frac{2n}{2}$$

$$6 = n$$

b) $P(n) = 31$

$$31 = 2n - 7$$

$$+7 \quad +7$$

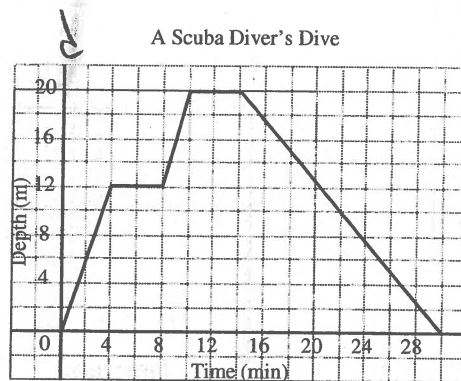
$$38 = 2n$$

$$\frac{38}{2} = \frac{2n}{2}$$

$$19 = n$$

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Salina went scuba diving in Hawaii. The graph shows her depth in relation to time. Answer the questions that follow.



a) Is it a function? (circle one):

yes

no

b) State the domain.

$[0, 28]$

$\{0 \leq t \leq 28\}$

c) State the range.

$[0, 20]$

$\{0 \leq d \leq 20\}$

d) Identify the independent variable.

time (min)

e) Identify the dependent variable.

depth (m)

f) How many minutes in total did the dive last?

28 min.

g) At what time(s) did the diver stop her descent?

4-8 min
10-14 min

h) For how many minutes was the diver not changing depth?

8 min.

i) What was the greatest depth the diver reached?

20 m.

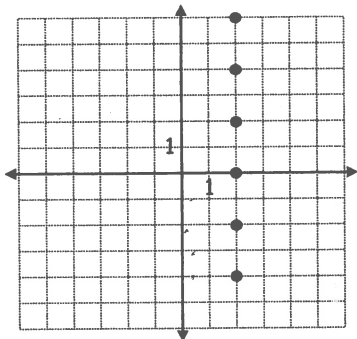
j) For how many minutes was the diver at that depth?

4 min.

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State the domain and range for each of the following:

a)



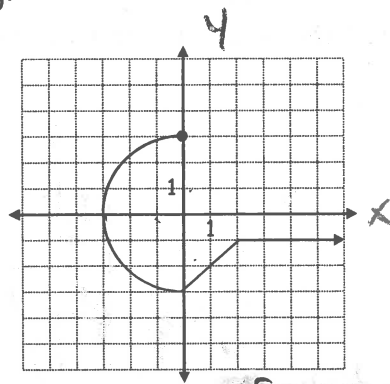
Domain:

$$\{2\}$$

Range:

$$\{-4, -2, 0, 2, 4, 6\}$$

b)



Domain:

$$[-3, \infty)$$

$$\{x | x \geq -3\}$$

Range:

$$\{-3 \leq y \leq 3\}$$

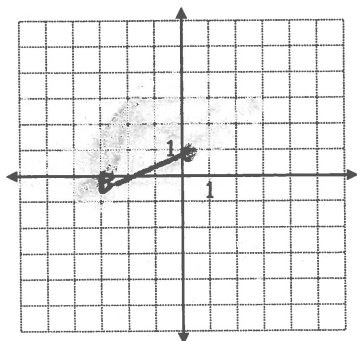
$$[-3, 3]$$

Sketch a graph of a function that has each domain and range.

a)

domain: $x \geq -3$ range: $y \leq 1$

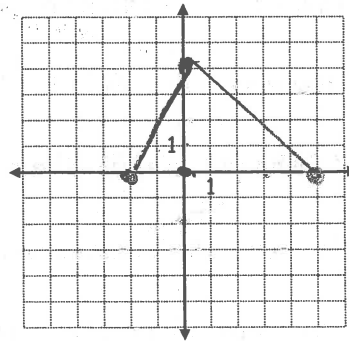
example



b)

domain: $-2 \leq x \leq 5$ range: $0 \leq y \leq 4$

example



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Given two tables of values that represent relations. Circle below the table if it is a linear relation or not. Explain your circled choice.

a)

t	n
0	1
20	2
40	4
60	8
80	16

Circle one: linear relation

not linear relation

Explanation:

n does not have same difference, unlike t.

b)

A	T
60	3
120	6
180	9
240	12
300	15

Circle one: linear relation not linear relation

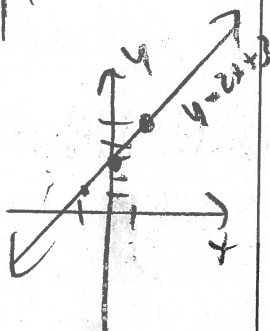
Explanation:

A and T have constant same difference

Create a table of values when necessary and then graph each relation.

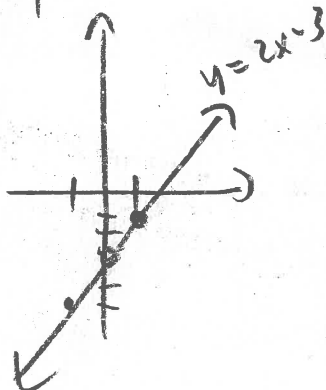
a) $y = 2x + 3$

x	y
0	3
1	5
-1	1



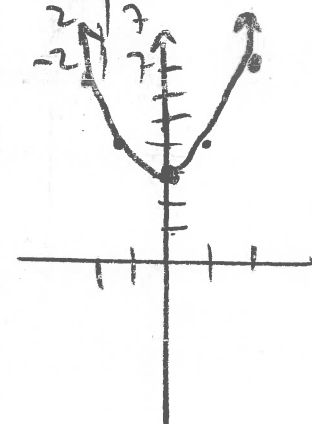
b) $y = 2x - 3$

x	y
0	-3
1	-1
-1	-5



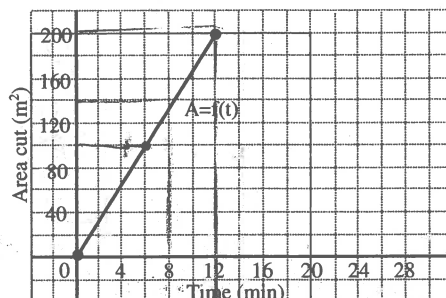
c) $y = x^2 + 3$

x	y
0	3
1	4
-1	4
2	7
-2	7



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The graph shows the area of grass, A , in square metres, that Thomas can cut as a function of time, in minutes.



- a) What is the rate of change? What does it represent?

$\frac{200 \text{ m}^2}{12 \text{ min}} = \frac{50}{3} = 16.\bar{6} \text{ m}^2/\text{min}$ or $16.\bar{6} \text{ min}/\text{m}^2$
Rate at which Thomas cuts grass.

- b) How much grass is cut in 12 minutes?

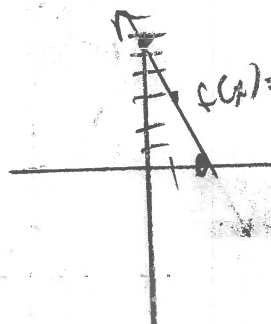
200 m^2

- c) How many minutes would it take to cut 150 m^2 of grass?

8 min.

Sketch a graph of the linear function for positive values of the independent variable.

$f(x) = 6 - 3x$



$x = 1$
 $6 - 3(1)$
 $6 - 3$
 $= 3$
 $(1, 3)$

$0 = 6 - 3x$
 $3x = 6$
 $x = 2$
 $(2, 0)$

$f(x) = 6 - 3(0)$
 $f(x) = 6$
 $(0, 6)$